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EXAMINER

EL CHANTI, HUSSEIN A

ART UNIT

PAPER NUMBER

2457

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

lhptoms@leehayes.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/718,199	<b>Applicant(s)</b> CHRYSTANTHAKOPOULOS ET AL.	
	<b>Examiner</b> HUSSEIN A. EL CHANTI	<b>Art Unit</b> 2457	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 16-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 16-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/1/2009</u> .   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This action is responsive to RCE received Dec. 1, 2009. Claims 1-13 and 16-40 are pending examination.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-13 and 16-30 and 35-38 are rejected under 103(a) as being unpatentable over Combs et al., U.S. Patent No. 6,766,348 (referred to hereafter as Combs) in view of Hadi, Patent Application Publication No. 2004/0148363.

As to claim 1, Combs teaches a computer system, comprising:

A computing system having a decentralized operating system orchestrating one or more services and resources represented as one or more services executing on the computing system (see col. 5 lines 64-col. 6 lines 37),

one or more services for representing a resource, each one or more services coupled to a decentralized operating system is an autonomous entity that exchanges one or more messages with a one or more services coupled to a disparate decentralized operating system that resides in a different trust domain with a different security policy based in part on a protocol specified by the one or more services coupled to the disparate decentralized operating system (see col. 5 lines 64-col. 6 lines

37, multiple RASA implemented on separate computers exchange messages to bind and unbind resources),

a port associated with each one or more services that is endowed with one or more behavioral types that are specified by a unilateral contract, communication between one or more services representing disparate resources is established based in part on compatibility between the one or more behavioral types associated with each one or more services (see col. 8 lines 30-57 and col. 2 lines 38-66, devices of similar capabilities i.e. compatible are grouped together); and

the decentralized operating system for orchestrating the one or more services executing on the computer system so as to control and coordinate resources, such that the one or more services representing the resource perform computations on a plurality of computers linked by communication network (see col. 6 lines 17-47, col. 2 lines 38-65 and col. 1 lines 35-51);

wherein a memory coupled to a processor that retains the decentralized operating system (see fig. 5 and col. 5 lines 64-col. 6 lines 6).

Combs does not explicitly teach a process kernel and a distributing kernel to control and coordinate resources. However, Hadi teaches a system and method using a distributed Kernel for managing processes and controlling resources (see paragraph [0041-0043]).

It would have been obvious for one of the ordinary skill in the art at the time of the invention to modify Combs' system by installing a distributed Kernel on the multiple

nodes or the multiple RASAs to manage and control resources present on distributed nodes as in Hadi.

Motivation to do so comes from the knowledge well known in the art that using Kernel is very essential in the use of Unix operating system which is a very reliable system and therefore using Kernel would make the system more efficient and reliable.

As to claim 2, Combs teaches the computer system of claim 1, wherein the computer system includes a microcomputer, a personal digital assistant, a cellular phone, or a display (see col. 2 lines 5-15).

As to claim 3, Combs teaches the computer system of claim 1, wherein the one or more services comprises:

a communication primitive (see col. 7 lines 64-col. 8 lines 2);

a behavioral primitive that comprises a unilateral contract (see col. 7 lines 64-col. 8 lines 2); and

a designation primitive includes a port identifiable by an identifier that includes a uniform resource identifier (see col. 7 lines 64-col. 8 lines 2).

As to claim 4, Combs teaches the computer system of claim 3, wherein the port is endowed with a behavior type as specified by a unilateral contract (see col. 7 lines 57-col. 8 lines 2).

As to claim 5, Combs teaches the computer system of claim 1, wherein a unilateral contract of the behavioral primitive defines a protocol for exchanging messages in a particular order with a one or more services to whom the unilateral contract belongs (see col. 4 lines 15-39).

As to claim 6, Combs teaches the computer system of claim 5, wherein the communication primitive includes a set of message types usable in the messages exchanged among one or more services so as to call a one or more services to perform a certain task (see col. 4 lines 15-39).

As to claim 7, Combs teaches the computer system of claim 6, wherein the decentralized operating system separates the control information from the data information in the messages when the messages are exchanged (see col. 5 lines 50-63).

As to claim 8, Combs teaches the computer system of claim 1, wherein the entities comprise one or more services representing one or more of devices, content, applications or people (see col. 5 lines 1-27).

As to claim 9, Combs teaches a networked system for networking computer systems, comprising:

a first decentralized operating system executing on a computer system (see col. 5 lines 64-col. 6 lines 37, RASP establishes a communication session that provides acceptable protocol and acceptable order in which one or more services may be invoked), which includes:

a first distributing operating system for designating uniform resource identifiers for a first set of one or more services and distributing messages among the first set of one or more services, each one or more services including a unilateral contract, the unilateral contract expressing behaviors of the one or more services (see col. 6 lines 17-47, col. 2 lines 38-65 and col. 1 lines 35-51);

a second distributing operating system for designating uniform resource identifiers for a second set of one or more services and distributing messages among the second set of one or more services, each one or more services including a unilateral contract, the unilateral contract expressing behaviors of the one or more services (see col. 11 lines 20-50);

communication between one or more services representing disparate resources is established based in part on compatibility between the one or more behavioral types associated with each one or more services (see col. 8 lines 30-57 and col. 2 lines 38-66, devices of similar capabilities i.e. compatible are grouped together).

Combs does not explicitly teach a process kernel and a distributing kernel to control and coordinate resources. However, Hadi teaches a system and method using a distributed Kernel for managing processes and controlling resources (see paragraph [0041-0043]).

It would have been obvious for one of the ordinary skill in the art at the time of the invention to modify Combs' system by installing a distributed Kernel on the multiple

nodes or the multiple RASAs to manage and control resources present on distributed nodes as in Hadi.

Motivation to do so comes from the knowledge well known in the art that using Kernel is very essential in the use of Unix operating system which is a very reliable system and therefore using Kernel would make the system more efficient and reliable.

As to claim 10, Combs teaches the networked system of claim 9, wherein one or more services includes device drivers for devices (see col. 5 lines 54-col. 6 lines 16).

As to claim 11, Combs teaches the networked system of claim 9, further comprising a process operating system for communicating messages as processes among one or more services (see col. 5 lines 54-col. 6 lines 16 and col. 7 lines 1-20).

As to claim 12, Combs teaches the networked system of claim 10, further comprising an operating system operating system for managing memory, controlling devices, maintaining time and date, and allocating system resources (see col. 7 lines 1-37).

As to claim 13, Combs teaches the networked system of claim 9, further comprising a network coupled to the first computer system, the network is selected from a group consisting of high bandwidth, low latency systems; high bandwidth, high latency systems; low bandwidth, high latency systems; and low bandwidth, low latency systems (see col. 1 lines 14-30).



As to claim 16, Combs teaches the networked system of claim 14, wherein a one or more services from the second set of one or more services registers with the first distributing operating system to obtain a uniform resource identifier (see col. 7 lines 64-col. 8 lines 2).

As to claim 17, Combs teaches the networked system of claim 14, wherein the first distributing operating system distributes a message to a one or more services from a first set of one or more services, the message being sent by a one or more services from a second set of one or more services (see col. 11 lines 35-51).

As to claim 18, Combs teaches the networked system of claim 14, wherein the first decentralized operating system orchestrates a composition of a one or more services from a first set of one or more services and a one or more services from a second set of one or more services (see col. 11 lines 35-51).

As to claim 19, Combs teaches a computer system, comprising:

a decentralized operating system that includes a distributing operating system, comprising:

a URI manager for managing names, each name constituting a unique designation of a one or more services at the computer system so that the one or more services can be discovered; each one or more services coupled to a decentralized operating system is an autonomous entity that exchanges one or more messages with a one or more services coupled to a disparate decentralized operating system that resides in a different trust domain with a different security policy based in part on a

protocol specified by the one or more services, the one or more services including a designation primitive (see col. 5 lines 64-col. 6 lines 37, multiple RASA implemented on separate computers exchange messages to bind and unbind resources) and a message dispatcher for forwarding messages among one or more services, each one or more services being identifiable by a name managed by the URI manager, each one or more services being associated with a unilateral contract (see col. 5 lines 64-col. 6 lines 37,, col. 11 lines 19-51 RASP establishes a communication session that provides acceptable protocol and acceptable order in which one or more services may be invoked);

communication between one or more services representing disparate resources is established based in part on compatibility between the one or more behavioral types associated with each one or more services (see col. 8 lines 30-57 and col. 2 lines 38-66, devices of similar capabilities i.e. compatible are grouped together).

Combs does not explicitly teach a process kernel and a distributing kernel to control and coordinate resources. However, Hadi teaches a system and method using a distributed Kernel for managing processes and controlling resources (see paragraph [0041-0043]).

It would have been obvious for one of the ordinary skill in the art at the time of the invention to modify Combs' system by installing a distributed Kernel on the multiple nodes or the multiple RASAs to manage and control resources present on distributed nodes as in Hadi.

Motivation to do so comes from the knowledge well known in the art that using Kernel is very essential in the use of Unix operating system which is a very reliable system and therefore using Kernel would make the system more efficient and reliable.

As to claim 20, Combs teaches the computer system of claim 19, wherein the distributing operating system further comprises a security manager for controlling authentication and authorization of rights and restrictions among one or more services (see col. 5 lines 64-col. 6 lines 37) .

As to claim 21, Combs teaches the computer system of claim 19, wherein the distributing operating system further comprises a one or more services loader for executing a sequence of instructions for loading components and one or more services, the one or more services loader being capable of dynamically loading or unloading one or more services during the operation of the decentralized operating system (see col. 5 lines 64-col. 6 lines 37, RASP establishes a communication session that provides acceptable protocol and acceptable order in which one or more services may be invoked).

As to claim 22, Combs teaches the computer system of claim 19, wherein the URI manager receives a register message from a one or more services to obtain a unique designation and assigns the unique designation to the one or more services, the URI manager being capable of receiving an unregister message for removing an assigned unique designation from a registry (see col. 11 lines 34-67).

As to claim 23, Combs teaches the computer system of claim 19, wherein the message dispatcher forwards a message from a first one or more services to a second one or more services if the first one or more services has a first uniform resource identifier assigned by the URI manager and the second one or more services has a second uniform resource identifier assigned by the URI manager (see col. 11 lines 34-67).

As to claim 24, neither Combs nor Baskey teaches the messages use SOAP. Official notice is taken that it would have been obvious for one of the ordinary skill in the art at the time of the invention to use SOAP because doing so would make the system more efficient and compatible with other systems by running HTML and XML.

As to claim 25, Combs teaches the computer system of claim 19, further comprising a network manager for distributing messages forwarded by the message dispatcher to another computer system (see col. 11 lines 34-67).

As to claim 26, Combs teaches the computer system of claim 25, wherein the network manager comprises a serializer/deserializer, a transmission protocol processor, and a control/data plane separator (see col. 11 lines 34-67 and fig. 14).

As to claims 27 and 35, Combs teaches a method implemented on a computer system, comprising:

assigning a first unique name to a first one or more services upon request, the first one or more services including a first unilateral contract for expressing the behaviors of the first one or more services; and

distributing a message to the first one or more services using the unique name, the message being sent by a second one or more services having a second unique name, the second one or more services including a second unilateral contract for expressing the behaviors of the second one or more services (see col. 5 lines 64-col. 6 lines 37 and col. 11 lines 1-67, RASP establishes a communication session that provides acceptable protocol and acceptable order in which one or more services may be invoked).

Combs does not explicitly teach a process kernel and a distributing kernel to control and coordinate resources. However, Hadi teaches a system and method using a distributed Kernel for managing processes and controlling resources (see paragraph [0041-0043]).

It would have been obvious for one of the ordinary skill in the art at the time of the invention to modify Combs' system by installing a distributed Kernel on the multiple nodes or the multiple RASAs to manage and control resources present on distributed nodes as in Hadi.

Motivation to do so comes from the knowledge well known in the art that using Kernel is very essential in the use of Unix operating system which is a very reliable system and therefore using Kernel would make the system more efficient and reliable.

As to claims 28 and 36, Combs teaches the method of claim 27, further comprising loading a network manager and other one or more services according to instructions written in a customizable, tag-based language (see col. 7 lines 1-20).

As to claims 29 and 37, Combs teaches the method of claim 28, further comprising spawning a one or more services to listen for incoming messages for the first one or more services that has been assigned the first unique name (see col. 5 lines 64-col. 6 lines 37, RASP establishes a communication session that provides acceptable protocol and acceptable order in which one or more services may be invoked).

As to claims 30 and 38, Combs teaches the method of claim 29, further comprising rejecting the message without distributing the message if a structure of the message fails to comply with a protocol for exchanging structured and type information of messages written in a customizable, tag-based language (see col. 7 lines 1-20).

### ***Allowable Subject Matter***

3. Claims 31-34 and 39-40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

4. Applicant's arguments have been fully considered but are moot in view of the new grounds of rejection.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUSSEIN A. EL CHANTI whose telephone number is (571)272-3999. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571)272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer One or more services Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hussein Elchanti/  
Patent Examiner

Jan. 26, 2010